

REMARKS

Claims 2, 30, 39, 42 and 69 are rejected under 35 U.S.C. 112, 2nd paragraph as being indefinite. The limitation objected to by the examiner has been amended and amended claims are now believed to be in compliance with 35 U.S.C. 112.

Claims 1, 3, 4, 10, 24-26, 29, 31, 32, 38, 40, 41, 43, 44, 50, 64-66, 70, 71 and 74-76 are rejected under 35 U.S.C. 102(a) as being anticipated by U.S. Patent 5,610,841 to Tanaka et al. The rejection is respectfully traversed with respect to the claims set forth above. All of the rejected claims contain the limitation that the transmission rate of the central server for transmitting one or more titles is reduced. The office action has failed to address this limitation of the rejected claims. This is clearly not taught or suggested by Tanaka or any other reference of record as explained below.

Tanaka is concerned with the problem that where there are multiple requests for video files sent to one storage unit at a time, it would take time to read out the requested video data and to transmit the data to subscribers so that real time transmission is impossible. As a solution, Tanaka proposes to control the transmission timing by estimating the time interval between the time when each readout request is transmitted and the receipt of the corresponding media segment file, where the interval was calculated using the media segment file servers' readout rate, the ATM switch 4000's exchange ability and transmission rate of the buffer memory 21. Column 12 lines 56 to column 13 line 4. Please see also Fig. 14 of Tanaka. Tanaka also stores the transmission rate of the video program requested, since high-quality programs would demand a higher transmission rate than low-quality programs. Based on the transmission rate of each video program that is requested, a judgment is made as to whether the request should be accepted or rejected. See Column 11 of Tanaka.

From the above, it is clear that Tanaka's purpose and goal are not the reduction of the transmission rate from its video server. Instead, it is concerned primarily with the capability of real time video data transmission to eliminate any time gaps between different portions of the video program, which may originate from different servers. When it is determined that the transmission rate of a requested video program is more than can be handled, the request would simply be rejected rather than accommodated.

Column 11, lines 54-64. Tanaka, therefore, fails to teach or suggest the feature of the rejected claims whereby a transmission rate of the central server is reduced.

The above-described feature of the rejected claims has practical and commercial importance, as explained in the specification. In one of the embodiments of the invention, the central server may be located in a location remote from a user terminal that is making the request for a video title. To enhance the capability of the central server for handling multiple requests from users at remote locations, in this embodiment, local proxy servers are employed, which are located closer to the user terminal devices than the remote central server. The proxy server is equipped with caching capability so that portions of the video title requested by the user located close to the proxy server may be fetched from the proxy server close to the user than from the distant central server. In one embodiment of the invention, the media title is divided into blocks and selected sub-blocks from the different blocks are cached under the control of the proxy server so that the transmission bit rate of the central server for transmitting the titles is reduced. While the invention of the rejected claims is illustrated by such embodiment, the invention is not limited to such embodiment.

From the above, it is clear that Tanaka simply fails to teach or suggest anything remotely similar to the above claimed features of the rejected claims. As noted above, transmission rates of media servers are taken into account by Tanaka only for the purpose of enabling real time video transmission without time gaps between different portions of the video frames originating from different servers, and only for the purpose of determining whether a video request should be accepted or rejected. Tanaka is entirely silent as to the possibility of reduction of transmission bit rates from a central server.

It is believed to be well established that in order for a reference to anticipate a claim, there must be identity of elements between those of the reference and those of the claim. In view of the above differences, Tanaka clearly fails to anticipate the rejected claims. Furthermore, as noted above, Tanaka's concern with transmission rates of servers is limited to the calculation of estimated time periods between a transmission of the readout request and the receipt of the corresponding media segment files, and to a determination whether a video request should be accepted or rejected. There is,

therefore, no reason or motivation for modifying Tanaka to arrive at the above-described limitations of the rejected claims.

From the above, it is believed that Claims 1, 28, 29, 38, 41 are allowable over Tanaka. Since none of the remaining references cited by the examiner remedies the above deficiencies of Tanaka, these claims are believed to be allowable over all art of record.

Claims 3, 4, 10, 31, 32, 40, 43, 44, 50, 70 and 71 are believed to be allowable since they depend on allowable claims.

Claims 2, 9, 11, 12, 17-19, 30, 37, 39, 42, 49, 51, 52, 57-59, 69 and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka and U.S. Patent 5,815,662 to Ong. The rejection is respectfully traversed.

The rejected claims are believed to be allowable since they depend from allowable claims and since Ong fails to remedy the deficiencies of Tanaka discussed above. Furthermore, the rejected claims are believed to be allowable since they contain limitations not taught or suggested by either Tanaka or Ong, either individually or in combination. As for Claims 2, 30, 39, 42 and 69, the examiner points to Column 2, Lines 30-67 of Ong. Column 2, Lines 60-63 of Ong states that "checking if the allocated sections of the memory buffer are full and, if so, removing the oldest-in-time, lowest priority data block to free a section of the memory buffer; and." This means that whenever the allocated sections of the memory buffer are full, data blocks are removed to free up a section of the memory buffer. This implies that the data blocks stored in the memory buffer are removed at random times (i.e. whenever the memory buffers are full, which happens randomly) so that they are not cached for time periods that are independent of time, contrary to the requirements of Claims 2, 30, 39, 42 and 69.

As for Claim 17, instead of deleting the most recently cached portion of a title as in Claim 17, Ong removes the oldest-in-time data block, which is diametrically opposite to what is required by Claim 17. Please see the quoted section from Ong set forth above. We, therefore, disagree with the examiner's statement in Item 35 on Page 11 of the office action.

Claim 57 contains a limitation similar to that in Claim 17.

Claims 5-7, 33-35 and 45-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka and U.S. Patent 6,570,579 to MacInnis et al. The rejection is respectfully traversed.

A reference is non-analogous art if it is not within the field of endeavor of the invention of the rejected claim and not reasonably pertinent to the particular problem within which the inventors are involved. In re Deminski 230 USPQ 313 at 315 (Fed.Cir. 1986). It is believed that MacInnis is non-analogous art and should, therefore, be removed as a reference. MacInnis relates to a graphic display system such as one used in a set-top box for controlling a television display, where the goal is to "provide a high level of system performance while conserving memory bandwidth and chip size." (see Abstract). It is, therefore, clearly outside of the field of endeavor with respect to the invention of the rejected claims, which relates to a system whereby the transmission rate of titles from a central server can be reduced. The particular problem with which the inventors are involved is the reduction of transmission rates that is required from a central server. MacInnis is, therefore, also not pertinent to the particular problem with which the inventors are involved and should, therefore, be removed as a reference.

Even assuming *arguendo* that MacInnis may be considered, we believe that there is no reason or motivation for combining MacInnis with Tanaka. As is clear from the background of the invention and a summary of the invention of MacInnis, MacInnis is concerned primarily with the display engine that blends graphics and video and spatially process the graphics data independently of the video data prior to the blending. Tanaka, on the other hand, is concerned with enabling a real time video transmission. There is, therefore, no reason or motivation for making the combination and the examiner has supplied none.

The rejected Claims 5-7, 33-35 and 45-47 are believed to be allowable since they depend from allowable claims and since MacInnis also fails to remedy the above-described deficiencies of Tanaka with respect to the independent claims upon which these claims depend. Furthermore, the rejected claims contain limitations, which are not taught or suggested by either Tanaka or MacInnis. For example, both claims 5 and 6 require the combination of the partial information of video frames from the proxy server with complimentary partial information of such video frames from the central server into

complete video frames. While the examiner admits that Tanaka fails to teach such feature, he is of the opinion that MacInnis teaches such. We respectfully disagree. Nowhere do the sections pointed out by the examiner of MacInnis teach such feature. If the examiner disagrees, it is respectfully requested that examiner point out precisely, by referring to exact column and line numbers where such teaching can be found. For example, Column 7, Lines 5-15 of MacInnis describes blending of graphics data, video window data, pass-through video data and background color data, where such data are not described as complimentary and are simply blended together. Complimentary in this instance means that the partial information of the video frames from the central server and the proxy server compliment each other in the manner of a jigsaw puzzle to form a complete video frame rather than the blended frame in MacInnis. This is made especially clear in Claim 6 where the complimentary information comprise different scan lines of video frames. Such feature in Claim 6 is clearly not taught or suggested by MacInnis or Tanaka.

According to Item 50 on Page 15 of the office action, the examiner is of the opinion that even though absent in Tanaka, MacInnis discloses the feature of obtaining a first sampling rate lower than that of the video source from which the information originates. We respectfully disagree. Column 2, Lines 45-60 of MacInnis teaches the conversion of "samples" to those taken at a sample rate that is a multiple of the chroma sub-carrier frequency...Column 2, Lines 50-51. In other words, the conversion taught by MacInnis is to a higher frequency rather than one that is lower than that of a video source and, therefore, teaches away from Claim 7.

Claims 33-35 and 45-47 contain limitations similar to those described above in Claims 5-7.

Claims 8, 36, 48 and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka, MacInnis and U.S. Patent 6,636,222 to Valmiki et al. These claims are believed to be allowable since they depend from allowable claims and since MacInnes and Valmiki et al. fail to remedy the deficiencies of Tanaka described above.

Claims 13-16 and 53-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka and U.S. Patent 5,568,181 to Greenwood et al. The rejection is

respectfully traversed. The rejected claims are believed to be allowable since Greenwood fails to remedy the deficiencies described above in Tanaka.

Claims 20-22, 28 and 60-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka and U.S. Patent 6,435,057. The rejection is respectfully traversed. The rejected claims are believed to be allowable since they depend from allowable claims and since they contain limitations, which are not taught or suggested by either reference. Thus, Claim 20 contains "defining a time window ending at a time of the caching replacement." This feature is absent from Tanaka as well as the '057 patent (column 4 or elsewhere of the '057 patent). Claim 22 contains the feature that the time weighting is in favor of accesses occurring more recently in the window. This is not taught or suggested by either reference. Column 8, Lines 5-35 of the '057 patent fails to describe such feature. If the examiner disagrees, it is respectfully requested that examiner point out exactly which line in this column of the '057 patent teaches such features.

Claims 60-62 contain limitations similar to those of Claims 20-22 discussed above.


Claims 23, 27, 63, 67, 68 and 77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka and U.S. Patent 6,317,778 to Dias et al. The rejection is respectfully traversed.

Claim 23 includes the feature of "increasing the number of sub-blocks cached from the blocks of at least one title in response to a subsequent request of said title. This is not taught or suggested by either Tanaka or Dias. Dias teaches storing duplicate objects to provide high availability for more popular media titles. This is different from the feature of increasing the number of sub-blocks that is cached, since the sub-blocks are typically different from one another in content and are, therefore, not duplicates of one another. Claims 27, 67 and 77 have been cancelled. Claim 63 contains the limitation submitted out of Claim 23.

New Claims 78-83 have been added to more completely claim the invention. The limitation added by these claims are clearly not taught or suggested by any other record.

Claims 1-23, 28-63, 68-73 and 78-83 are presently pending in the Application.
Reconsider of rejections is respectfully requested and an early indication of the
allowability of all the claims is earnestly solicited.

Respectfully submitted,



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